

### **REMARKS**

In the Office Action, claims 1-11, 13-24 and 26-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto et al., U.S. Patent No. 4,672,346 in view of Sellers, U.S. Patent No. 5,431,165. All of the pending claims are believed to be allowable over cited the prior art. Reconsideration and allowance of all pending claims are respectfully requested in view of the arguments summarized below.

#### **Petition to Withdraw Finality**

The Examiner indicated that the current Office Action has been made final. Applicants submit that the finality of the Action is improper. In particular, in the previous Action mailed on March 26, 2004, the Examiner objected to certain claims, including claims 10, 12, 25 and 28. No prior art rejection was formulated against any of these claims. Indeed, in the rejection based on prior art, the Examiner specifically did not refer to these claims. The bases for objection to the claims was removed (although not acknowledged by the Examiner), and the claims were considered allowable by the Applicants.

Clearly, the Applicants have not been placed on notice of the rejection of at least claim 10. Accordingly, Applicants have not been given a fair opportunity to argue the patentability of claim 10. Moreover, the Examiner did not explain how claim 10 is now rejected. For at least these reasons, the finality of the current Action should be withdrawn, and the Examiner should present a cogent *prima facie* case against this, and the remaining dependent claims in a proper non-final Action.

#### **Incomplete Rejection of Dependent Claims**

Before addressing the Examiner's position as formulated in the Action, Applicants point out that the Examiner failed to discuss *any* of the features recited in *any* of the dependent claims. This is true of the current and the previous Actions. Applicants could provide examples based on each and every dependent claim, and deem improper

that they should do so here. Indeed, it is the Examiner's responsibility to set forth a *prima facie* case of unpatentability with respect to each and every claim. Applicants therefore submit that the current rejections are incomplete and improper on their face, and respectfully request that the Examiner set forth cogent bases for rejecting the claims in a manner that will permit the Applicants fairly to respond.

**Rejections Under 35 U.S.C. § 103**

Claims 1-11, 13-24 and 26-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable Miyamoto et al., U.S. Patent No. 4,672,346.

The Examiner rebuts the Applicants' position by arguing that "one advantage offered by replacing the elements 19 of Fig. 11 of Miyamoto with permanent magnet material would be that the same material are used (i.e. permanent magnet shims movable inside a permanent magnet) resulting in a more stable temperature sensitivity for the overall assembly." The Examiner further argues, "Miyamoto himself used permanent magnet that are movable with respect to other permanent magnets. See permanent magnets 23 and permanent magnet 1 in Fig. 13." The Examiner finally states, "The level of ordinary skill in the art of MRI magnet design is high." The arguments put forth by the Examiner is addressed as below.

For a *prima facie* case of obviousness, the Examiner must set forth the differences in the claim over the applied reference, set forth the proposed modification of the reference, which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious. The Miyamoto reference, does not teach, suggest or disclose each and every aspect of Applicants' recited invention as claimed in independent claims 1, 14, 26 and 31.

**Claim 1 and the Claims Depending Therefrom**

Independent claim 1 recites a permanent magnet *assembly*, which includes a fixed permanent magnet body and a movable permanent magnet body. The movable permanent magnet body moves relative to the fixed permanent magnet body.

The Examiner argues that it would be obvious to use a permanent magnet in place of soft magnetic material of Miyamoto. Indeed, the opposite is true. The rod-like element 19 of Miyamoto is not equivalent to the claimed movable permanent magnet body, and the replacement would not be apparent or even desirable to one skilled in the art. For example, the rod-like element as described in the Miyamoto reference is not differentially affected by polarity of its own flux field, as a permanent magnet body would be. That is, the soft magnetic or ferromagnetic material 19 would be influenced only by the flux of the fixed permanent magnet. There would not be any interaction of magnetic fields of the two elements (i.e., attraction, repulsion, enhancement or cancellation of flux) that would pose any problem or synergistic effect. In fact, using a permanent magnet inside another permanent magnet poses many issues of field interaction, polarity and so on. In other words, the interaction or influence of a soft magnetic material with the magnetic field of a permanent magnet when the soft magnetic material moves inside the permanent magnet would be substantially different than that of a permanent magnet moving inside another permanent magnet. The replacement is not, therefore, obvious, and would, in fact, substantially change the nature and operation of the Miyamoto structure in a way not justified by the teachings of the reference as a whole.

The Examiner further argues that the Miyamoto reference (erroneously indicated as Miyajima by the Examiner) describes the use of two permanent magnets in Fig. 13. The Miyamoto reference in Fig. 13, describes moving permanent magnets *outside* the fixed permanent magnets. Hence the permanent magnets of Fig. 13 in the Miyamoto reference do not constitute the permanent magnet *assembly* and do not

accomplish the same results of the permanent magnet *assembly* as described by the Applicants' invention. Indeed, Fig. 13 of Miyamoto suggests the contrary. If Miyamoto had intended or in any way foreseen the material replacement suggested by the Examiner, Fig. 13 illustrates that permanent magnets could have been used for the element 19 shown in the other figures. Significantly, however, they were not. Clearly, then, the reference considered as a whole does not support the Examiner's position.

The Examiner finally states that the level of ordinary skill in the art is high. Even with the high level of ordinary skill in the art, no one had yet proposed using a permanent magnet moving inside another permanent magnet as claimed. Again, if Miyamoto knew of both non-magnet elements and permanent magnet elements, the high level of skill would have implied that *some* mention of the replacement should have been made. Its absence, again, illustrates the unobvious nature of the proposed substitution.

Hence the Miyamoto reference does not teach, suggest or disclose each and every aspect of Applicants' recited invention as claimed in the independent claim 1.

**Claim 14 and the Claims Depending Therefrom.**

Independent claim 14 recites a magnetic resonance imaging apparatus, which includes a yoke and a permanent magnet assembly. The yoke includes a first portion, a second portion and a third portion connecting the first and the second portions. The permanent magnet assembly attached to the first yoke portion and includes a fixed permanent magnet body and a movable permanent magnet body. The movable permanent magnet body is movable relative to the fixed permanent magnet body.

As discussed above with respect to claim 1, the Miyamoto reference does not teach, suggest or disclose the assembly including two permanent magnet bodies as claimed in the independent claim 14.

**Claim 26 and the Claims Depending Therefrom.**

Independent claim 26 recites a permanent magnet assembly. The permanent magnet assembly includes a fixed permanent magnet body and a permanent magnet means for moving relative to the fixed permanent magnet to adjust a  $B_0$  field of the assembly.

The arguments for claim 1 are equally valid here. The Miyamoto reference simply does not teach, suggest or disclose such a permanent magnet assembly as claimed in the independent claim 26.

**Claim 31 and the Claims Depending Therefrom.**

Independent claim 31 recites a method of making a permanent magnet assembly. The method includes providing a fixed permanent magnet body and a movable permanent magnet body. The method further includes moving the movable permanent magnet body relative to the fixed permanent magnet body to adjust a  $B_0$  field of the assembly.

As discussed above, the Miyamoto reference does not teach, suggest or disclose such an assembly or a method for adjusting a field in this way.

**Conclusion**

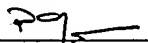
Therefore, the present invention, as recited in independent claims 1, 14, 26 and 31 is patentable. Claims 2-11 and 13 depend directly or indirectly from claim 1; claims 15-24 depend directly or indirectly from claim 14; claims 27-30 depend directly or indirectly from claim 26; and claims 32-45 depend directly or indirectly

from claim 31. These claims are allowable by virtue of such dependency, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 1-11, 13-24 and 26-45 under 35 U.S.C. §103(a) be withdrawn.

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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